

Taxonomic Notes on North American Anobiidae (Coleoptera)¹

RICHARD E. WHITE²

Work done in preparation of an illustrated key to the North American genera of Anobiidae (to be submitted to *Annals Entomological Society of America*) has shown the necessity for changes in the generic placement of certain species; these changes and other notes are presented. The removal of *Ernobius trapezoides* Fall and *E. champlini* Fisher from *Ernobius* and assignment to *Episernus* provides the first North American record of the genus *Episernus*.

EPISERNUS Thomson, 1863, p. 151.

Fall (1905, p. 132) regarded the genus *Episernus* as doubtfully distinct from *Ernobius*. However, I find the following characters to be an adequate basis for distinguishing *Episernus* from *Ernobius*. In *Episernus* the pronotum bears a distinct lateral margin only basally; the prosternum before the coxae is equal to $\frac{1}{2}$ to $\frac{3}{4}$ of the coxal diameter; the antennae are 10-segmented, and the first tarsal segment of the posterior legs is as long as the following 3 segments combined. In *Ernobius* the pronotum bears a sharp lateral margin throughout; the prosternum before the coxae is equal to $\frac{1}{4}$ to $\frac{1}{2}$ of the coxal diameter; the antennae are 11-segmented (except 10-segmented in *gentilis* Fall), and the first tarsal segment of the posterior legs is no longer than the 2 following segments combined.

In the key to genera by Fall (1905, p. 132) the genus *Episernus* will key to *Ernobius*. *Episernus* can be distinguished in that the lateral margin of the pronotum is distinct only basally, and is absent or indistinct anteriorly; in *Ernobius* the lateral margin of the pronotum is distinct throughout.

During this work I have examined a specimen of the type-species of *Episernus* (*E. angulicollis* Thoms., by monotypy) determined by F. Espanol.

Episernus belongs in the subfamily Dryophilinae and in a phylogenetic sequence should be placed after the genus *Ernobius*. For the benefit of American workers a description of the genus *Episernus* (as derived from the two North American species) follows:

¹ Accepted for publication August 28, 1969.

² Mail address: c/o U. S. National Museum, Washington, D. C. 20560.

General.—Body elongate, rather narrow, averaging about 2.5 times as long as wide; pubescence short, very fine and dense, yellowish, appressed, unicolorous and uniform in direction; body surfaces finely granulate-punctate.

Head.—Front nearly evenly convex, clypeal suture impressed, clypeus and frons much wider than long. Eyes moderate in size; bulging from head, larger, more bulging in male; eyes of female separated by 2.0 to 2.6 times vertical diameter of an eye, those of male separated by 1.7 to 2.0 times vertical diameter of an eye. Antennae 11-segmented, last three segments lengthened and widened, those of female about 1.5 times as long as all preceding united, those of male about 2.5 times as long as all preceding united; first antennal segment broad, arcuate, longest of segments 1 to 7; segments 2, 3, and 4 similar in length, 2nd broadest; segments 5, 6, and 7 similar in form, 7th shortest. Last segment of maxillary and labial palpi similar, elongate, rather narrow, broadest basally, bluntly pointed apically, about 2 times as long as wide.

Dorsal surface.—Pronotal surface undulate; pronotum at base about eight-tenths as wide as elytra at base; pronotum at side with a sharp, distinct margin only at base, margin at middle of side blunt to obsolete, margin absent anteriorly. Scutellum small, tab-shaped, distinctly wider than long. Elytra with distinct humeri; surface granulate-punctate as rest of body, at extreme sides with faint indication of rows of large punctures.

Ventral surface.—Prosternum short, broad, length before coxae equal to 1/2 total coxal diameter; front coxae touching, conical, rather prominent; mesosternum short, broad, posterior margin broadly V-shaped; middle coxae touching, conical, prominent; metasternum broadly bulging posteriorly, declivous anteriorly; metepisternum elongate, narrow, broadest anteriorly, more narrow posteriorly, nearly parallel-sided medially; metacoxae very narrow and elongate, widest medially, narrowly separated at center. Abdomen with 5 segments (sometimes a sixth visible), all sutures distinct, straight, 5 segments very similar in length, 2nd somewhat longer than others. Legs long and thin, tarsus of each leg nearly as long as to as long as its tibia, first tarsal segment of hind legs nearly as long as remaining segments combined, 3rd and 4th tarsal segments of all legs lobed beneath, 4th more distinctly so, tarsal claws with a narrow, elongate tooth basally.

Length.—3.0 to 4.7 mm.

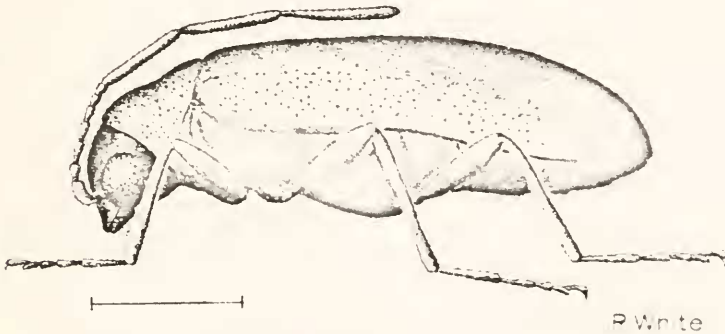


FIG. 1. Adult male of *Episcernus trapezoides* (Fall). Line equals 1 mm.

Episernus trapezoideus (Fall), 1905, p. 151, NEW COMBINATION,
Fig. 1.

Episernus champlaini (Fisher), 1919, p. 298; NEW COMBINATION.

These two species have until now been placed in *Ernobius*, but are correctly assigned to the largely European genus *Episernus* Thomson (1863, p. 151).

Xyletinus Latreille, 1809, p. 376.

Xyletinus brevis (White), 1960, p. 235; NEW COMBINATION.

I originally described the above species in the genus *Eucrilletta* on the basis of the elongate last 3 antennal segments. A detailed comparison of the morphology of *Eucrilletta xyletinoides* Fall (type-species of *Eucrilletta* by monotypy) and *E. texana* Van Dyke, 1946, p. 85, with *Xyletinus brevis* (White), *X. ater* (Cruetzer) (in Panzer, 1796, p. 9), *X. bucephalus* (Illiger), 1807, p. 10, and *X. peltatus* (Harris), 1836, p. 75, shows the above change to be desirable. The only significant difference that I find in the external anatomy of *Eucrilletta* from that of the above four species of *Xyletinus* is that the 3 terminal antennal segments of *Eucrilletta* are nearly, or fully as long as all preceding united; in *Xyletinus* the 3 terminal antennal segments are equal in length to only the 4 to 6 preceding segments combined. The genitalia of *Eucrilletta texana*, *Xyletinus brevis*, *X. ater*, and *X. peltatus* show no basic differences; that is, all are symmetrical, with the median lobe elongate and broadest basally, and the lateral lobes about as long as the median lobe. Each lateral lobe is rather leg-like and has a subapical palp-like process that is broadest apically. In addition, the median lobe of each bears internal spine and hook-like processes.

Xyletinus SPECIES GROUPS

Three natural groups of species can be recognized within the genus *Xyletinus*. In the first group (including *brevis*, *distans*, *sequoiae*, and *grossus*) the terminal 3 antennal segments are as long as the 5 to 6 preceding united, and the eyes are large. They are separated by 1 to 3 times the width of an eye as seen from the front. Some years ago type specimens of *Xyletinus grossus* and *X. sequoiae* were made available to me for examination. My sketches and notes on these show that they are very similar in antennal formation to *X. brevis*. These 4 species can properly be placed in *Xyletinus*, despite the antennal differences, because of very close agreement in other details of morphology, including the form of the male genitalia.

In the second and third species groups the terminal 3 antennal segments are equal in length to the 4 to 5 preceding segments combined. In the second, or large-eyed, group (including *peltatus*, *harrisi*, *golfensis*, and *mucroscus*) the eyes are separated by 1 to 3 times the width of an eye as seen from the front. In the third, or small-eyed, group (consisting of *gracilipes*, *fasciatus*, *pubescens*, *lugubris*, and *fucatus*) the eyes are separated by 4 to 7 times the width of an eye as seen from the front.

It must be noted that the species *gracilipes* Fall is very aberrant for the genus. I have seen only Fall's type (USNM number 64850). It differs from all other members of the genus in that the tarsi are slender and nearly as long as or equal in length to the tibiae. The tarsi of the other species of *Xyletinus* are stout and $\frac{1}{2}$ to $\frac{2}{3}$ as long as the tibiae. Also the ventral surface of the head in *gracilipes* bears distinct depressions which receive the antennae in repose; the ventral surface of the head in most species is feebly to slightly depressed. Two described species (*fasciatus* and *pubescens*) have the head depressed beneath, the former to as great an extent, and the latter to a lesser extent than does *gracilipes*. In addition, the palpi of *gracilipes* are elongate and narrow. Though there is variation in the form of the palpi in the genus, the elongation is more developed in *gracilipes* than in any other species.

It is possible that *gracilipes* deserves being given separate generic rank (this was also noted by Fall, 1905, p. 203). However, the rank to be accorded *fasciatus* and *pubescens* would complicate such a move. Also, within the small-eyed series, there appears to be a number of undescribed species, and there are puzzling variations in series of named specimens. A thorough study of the genus with more material than now at hand will be necessary for an understanding of these problems and changes in the genus or additions to it at this time are not justified.

Examination of the European *Xyletinus ater* (Creutzer) has shown this species to be very similar to our third (small-eyed) species group. It also bears slight depressions on the ventral surface of the head between the eyes. In an application that has been submitted to the Commission on Zoological Nomenclature I have asked the Commission to exercise its plenary powers to designate *X. ater* as the type-species of *Xyletinus*.

XESTOBIUM Motschulsky, 1845, p. 35.

Xestobium marginicollis (Leconte), 1850, p. 87.

NEW COMBINATION

Ruckes (1958, p. 146) placed *Ernobius marginicollis* Leconte in *Hyperisus*. I have compared *Hyperisus plumbeum* (Illiger), 1801, p. 87

(type-species of *Hyperisus* by monotypy) with *marginicollis* and am in agreement that the two species are congeneric and different from *Ernobius*. In the most recent European treatment including *Hyperisus* (Espanol, 1964), the latter genus is treated as a subgenus of *Xestobium*.

A detailed comparison of *Xestobium rufovillosum* (DeG.) (the type-species of *Xestobium* by monotypy and original designation), *X. abietis* Fisher, and *X. affine* Leconte with *Hyperisus plumbeum* and *H. marginicollis* shows only the following differences. In the two species of *Hyperisus* the pubescence of the dorsal surface is unicolorous yellowish, uniform in density, and has intermixed, distinctly bristling hairs. Also the median elytral suture at the apical ♀ is depressed, and there is a degree of asymmetry in the median lobe of the male genitalia. In the above species of *Xestobium* the pubescence of the dorsal surface is appressed and bicolored with irregular patches of generally dense, golden pubescence contrasting with the much sparser dark pubescence. Also, the median elytral suture at the apical ♀ is not depressed, and the male genitalia are symmetrical. I regard the above differences as too feeble a basis for separation of *Hyperisus* from *Xestobium*, and regard the names as synonymous.

CAENOCARA Thomson, 1859, p. 907.

Caenocara californica LeConte.

Caenocara californica Leconte, 1878, p. 412.

Caenocara occidentis Casey, 1885, p. 330.

Fall (1905, p. 274) synonymized Casey's *C. occidentis* with *californica*. Casey (1924, p. 207) claimed that his *occidentis* was not even closely related to *californica*, "having only about half the weight and being of a pale piceous color, uniformly throughout my series of three specimens, besides differing in many other ways."

I have compared Casey's type and two paratypes of *occidentis* (USNM number 49236) with two specimens determined by Fall as *californica*. The three specimens of *occidentis* are all about 1.4 mm in length, are reddish brown to dark reddish brown above, and reddish brown to nearly black below. The two specimens of *californica* are 1.5 and nearly 2.0 mm in length; the smaller is a little darker than any of the three specimens of *occidentis*, and the larger is distinctly darker than any *occidentis* specimens. I find no differences between these two series (in regard to external morphology, antennae, and palpi) other than size and color and conclude that the two names cover a single species.

PTILINUS Müller, 1764, p. xii.**Ptilinus acuminatus** Casey, 1898, p. 63.

Hopping (1928, p. 8) synonymized *P. acuminatus* Casey and *P. basalis* Leconte. I have compared Casey's three female types (type and two paratypes with USNM number 48848) with *basalis* and find *acuminatus* to be a valid species. The characters presented by Fall (1905, p. 279) for distinguishing the two species are workable.

Ptilinus flavipennis Casey, 1898, p. 64.

Fall (1905, p. 281) synonymized *P. flavipennis* with *P. basalis*, Leconte however, comparison of Casey's male type and only specimen of *Ptilinus flavipennis* with a lengthy series of *P. basalis* Lec. has shown *flavipennis* to be a valid species distinct from *basalis*, as was stated by Casey (1924, p. 207). The type of *flavipennis* is 2.7 mm in length; the ramus of the third antennal segment is a little shorter than the segment itself, and the base of the ramus extends past the middle of the segment. The ramus of the fourth segment is 2 times as long as the segment, and the ramus of the fifth segment is 4 times as long as the segment. Males of *basalis* vary from 3.0 to 4.6 mm in length; the ramus of the third antennal segment is a little longer than the segment and its base extends to the middle of the segment. The ramus of the fourth segment is about 4 times as long as the segment, and the ramus of the fifth segment is about 6 times as long as the segment.

OLIGOMERUS Redtenbacher, 1849, p. 347.**Oligomerus oregonensis** Hatch, 1961, p. 316.

Melville Hatch in his Beetles of the Pacific Northwest described and illustrated the above species. However, his illustration is clearly of a beetle belonging to the genus *Nyctinus*, and the drawing does not agree with his description of the antennae and elytral striae. In the description antennal segments 9 to 11 are termed "greatly enlarged," and the elytral striae as composed of "series of elongate punctures." The drawing shows the last three antennal segments to be but slightly enlarged, and the elytral striae to consist of fine lines. I am not able to recognize the species from the description, and regard the status of *O. oregonensis* Hatch as uncertain.

LITERATURE CITED

- CASEY, T. L. 1885. New genera and species of Californian Coleoptera. California Acad. Sci. 1: 283-336.

- . 1898. Studies in the Ptinidae, Cioidae and Splindidae. Jour. New York Ent. Soc. 6(2): 61-93.
- . 1924. Memoirs on the Coleoptera. Vol. 11. Lancaster, Pa.: Lancaster Press. 347 pp.
- ESPAÑOL, F. 1964. Los *Nestobium* Motsch. palearticos (Col. Anobiidae). EOS, Rev. Espanol. Ent., Tomo XL nos. 1-2, p. 123-137.
- FALL, H. C. 1905. Revision of the Ptinidae of Boreal America. Trans. American Ent. Soc. 31: 97-206.
- FISHER, W. S. 1919. Five new species of Ptinid beetles. Proc. United States Nat. Mus. 55: 295-299.
- HATCH, M. H. 1961. Family Anobiidae. In Beetles of the Pacific Northwest, part 3. Univ. Washington Pubs. Biol. 16: 309-327.
- HARRIS, T. W. 1836. Characteristics of some previously described North American Coleopterous insects. . . . Trans. Hartford Nat. Hist. Soc. 1: 65-91.
- HOPPING, R. 1928. Some notes on examination of types of Coleoptera in the Leconte and Casey collections. Canadian Ent. 60(1): 6-8.
- ILLIGER, K. 1801. Magazin für Insektenkunde. Vol. 1, pts. 1 & 2. Braunschweig. pp. 1-260.
- . 1807. Magazin für Insektenkunde. Vol. 6. Braunschweig. pp. 1-370.
- LATREILLE, P. A. 1809. General Crustaceorum et Insectorum. . . . Vol. 4. Paris. 1-399.
- LECONTE, J. L. 1859. Catalogue of the Coleoptera of Fort Tejon, California. Proc. Acad. Nat. Sci. Philadelphia 11: 69-90.
- . 1878. Additional descriptions of new species. In Schwarz, The Coleoptera of Florida. Proc. Amer. Phil. Soc. 17: 373-434.
- MOTSCHULSKY, V. 1845. Remarques sur la collection de Coleopteres Russes. Article I. Bull. Soc. Imp. Nat. Moscou, Vol. 18, pt. 1, pp. 1-127.
- MÜLLER, O. F. 1764. Fauna Insectorum Fridrichsdalina. . . . Lipsiae. 1-96.
- PANZER, G. W. F. 1796. Fauna Insectorum Germanica initia. . . . 35: 9.
- REDTENBACHER, L. 1849. Fauna Austriaca. Die Käfer. Wein. 1-883.
- RUCKES, H., JR. 1958. *Hyperisus marginicollis* (Leconte) a new combination. Pan-Pacific Ent. 34(3): 146.
- THOMSON, C. G. 1859. Skandinaviens Coleoptera, synoptiskt bearbetade. Tome I. Lund. pp. 1-290.
- . 1863. Skandinaviens Coleoptera, synoptiskt bearbetade. Tome V. Lund. pp. 1-340.
- VANDYKE, E. C. 1946. New species of North American Coleoptera. Pan-Pacific Ent. 22(3): 84-89.
- WHITE, R. E. 1960. Four new eastern species of drug-store and deathwatch beetles (Coleoptera: Anobiidae). Ohio Jour. Sci. 60(4): 235-238.